rejected CLEC arguments that 100% IDLC-GR-303 must be assumed for such loops. *Id.*; *Georgia/Louisiana 271 Order* at 9046 ¶ 50. Indeed, though the *Order* refuses to consider this evidence, even the CLECs have now conceded that GR-303 cannot provision unbundled loops and that other electronic solutions are therefore necessary. AT&T stated in its *Triennial Review* comments that "[t]here are provisioning, alarm reporting, and testing issues that have not yet been worked out for using GR-303 in a multi-carrier environment," and "other operational concerns must be addressed before the deployment of any solution whose underlying architecture and technology is premised on GR-303 DLCs."[27/]

The record also overwhelmingly demonstrates that IDLC-GR-303 cannot be used to provision unbundled standalone loops. Verizon VA introduced unrebutted evidence showing that, because IDLC by its very nature *integrates* the loop directly into the switch, IDLC-based loops have to be groomed to UDLC or copper (or otherwise manually redirected to the CLECs' collocation space) in order to be unbundled on a standalone basis. VZ-VA Ex. 122 at 81. The record showed that even Telcordia, the author of the GR-303 protocol, recognized that various security, error protection, and OSS concerns must be resolved in order for GR-303 to be capable of unbundling standalone loops.[28/] Indeed, as of 2003, Telcordia continues to maintain that technological barriers make unbundling using GR-303 infeasible. Its updated web site still refers

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27/ Letter from Joan Marsh, Director, Federal Government Affairs, AT&T Corp., to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, and 98-147, at 3 (filed Dec. 4, 2002); VZ-VA Proffer, Supplemental Testimony of Joseph A. Gansert at 5-7 (Apr. 15, 2003) ("Gansert Supplemental Testimony").

28/ VZ-VA Ex. 157 at 1 (Telcordia's website notes that "*new requirements* are needed to support alternative distribution technologies . . . as well as new services and applications (*e.g., . . . local loop unbundling*).") (emphasis added); *see also* Tr. at 4585-86.

to the GR-303 "implementation issues," acknowledging that Telcordia has yet to "resolve implementation issues related to GR-303 NG-IDLC systems."[29/]

While the industry has been grappling with the necessary solutions for some time, no DLC equipment manufacturer sells equipment that allows standalone loops to be unbundled using IDLC, even with GR-303.[30/] Thus, not surprisingly, even AT&T witness Joseph Riolo admitted that, to his knowledge, "*[n]o* local exchange carrier . . . is presently unbundling with GR303 technology," and that his proposed solution for IDLC-GR-303 unbundling therefore remained purely theoretical. Tr. at 4619, 4616 (emphasis added). Therefore, the *Order* irrationally assumes that all fiber-fed loops are unbundled using a technology that is not even capable of performing that function. And it does so notwithstanding the fact that Verizon VA has not deployed the assumed technology in Virginia and does not plan to do so.

In addition, because the *Order* assumes the use of a technology that is not currently available to provision standalone unbundled loops, it is fundamentally inconsistent with the Commission's rules requiring that any technology assumed for TELRIC-purposes must be "currently available." 47 C.F.R. § 51.505(b)(1). The Supreme Court has pointed to this rule as one of the chief constraints on TELRIC.[31/] The *Order* seeks to defend its 100% IDLC

[29/] VZ-VA Proffer, Gansert Supplemental Testimony, Exhibit 5 (http://www.telcordia.com/resources/genericre q/gr303/ (last visited Apr. 2, 2003)); *see also* VZ-VA Proffer at 17-20; VZ-VA Proffer, Gansert Supplemental Testimony at 7.

[30/] Verizon Virginia Inc. Initial Post-Hearing Brief at 90-92 (Dec. 21, 2001) ("VZ-VA Initial Br."); Tr. at 4583-85 (Gansert); Verizon Virginia Inc. Non-Recurring Cost Panel Surrebuttal Testimony, Attachment A (Sept. 21, 2001) ("VZ-VA Ex. 124").

[31/] *Verizon Communications, Inc. v. FCC*, 535 U.S. 467, 506 & n.22 (2002) ("*Verizon Communications*") (noting that under TELRIC, "the marginal cost of a most-efficient element that an entrant alone has built and uses would not set a new pricing standard until it became available to competitors").

assumption on the ground that, even if GR-303 unbundling capabilities are not currently available, the development of such capabilities may be "technically feasible," *Order* ¶ 315, because the problems with such unbundling are "eminently solvable," *id.* ¶ 319. But "*technical feasibility*" is not the relevant test: as the Commission found in its *Triennial Review Order*, any technology assumed for TELRIC purposes must be actually deployed and capable of performing the relevant function in at least *some* carrier's network, and may not be technology that theoretically "may be available in the future."[32/] Indeed, the *Order* recognizes elsewhere that TELRIC disallows "overly optimistic assumption[s] about the capabilities of currently available technolog[ies]." *Order* ¶ 569. Its failure to comply with the "currently available" limitation here is reversible error. *See* 47 C.F.R. § 1.115(b)(2)(i).

The *Order* also points to two pieces of evidence to support its 100% IDLC-GR-303 assumption, but neither shows that IDLC-GR-303 is currently available. First, it relies on a few isolated quotes in the non-cost arbitration record that it contends demonstrate that IDLC-GR-303 standalone loop unbundling is possible. *See Order* ¶ 315 nn.817-18 (citing Non-Cost Testimony at 276-78, 292-93 (John White)). But those quotes do not support the *Order*'s conclusion. The cited testimony explains that where a loop is served by IDLC, and there is *no* UDLC or copper available, Verizon VA could install an entirely new *unintegrated* DLC system, including a new central office terminal, to provision a loop to the relevant customer. This would involve "unintegrat[ing]" all of the customers served by the DLC system — a process that would require the "conver[sion]" of the "whole" central office terminal to "universal" from scratch. Non-Cost

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32/ Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket Nos. 01-338, 96-98, 98-147, FCC 03-36, ¶ 670 n.2020 (rel. Aug. 21, 2003) ("*Triennial Review Order*").

Tr. at 276-77 (White). This testimony thus actually illustrates that an IDLC-fed loop could *not* be unbundled. Indeed, the *Non-Cost Order* seems to recognize this, noting that unbundling a loop served by IDLC would require movement to a copper or UDLC facility.[33/]

The *Order* similarly misinterprets non-cost testimony with respect to whether the transfer of a loop from IDLC "to a UDLC loop" could be achieved "automatically." *Order* ¶ 315. Whether or not such a migration could occur automatically is irrelevant: rather, the fact that such a migration is necessary at all demonstrates that IDLC cannot be used to unbundle standalone loops.

The *Order* next points to the fact that Verizon's network in the former-GTE region uses IDLC-GR-303. *Id.* ¶ 317. But this fact has no relevance to the question whether IDLC can be used to provision standalone unbundled loops to CLECs: no party denies the *existence* of IDLC-GR-303 or suggests it is not deployed anywhere. The point is, however, that existing GR-303 technology does not have the necessary capabilities to unbundle standalone loops.

Finally, the *Order*'s 100% IDLC assumption also makes no sense because it ignores record evidence that UDLC is required to serve *non-switched* services.[34/] IDLC cannot be used for such services because such lines are by definition integrated into the switch. *See* Verizon

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[33/] Memorandum Opinion and Order, *Petition of WorldCom, Inc. et al, Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration*, 17 FCC Rcd 27039, 27274 ¶ 478 (2002) ("*Non-Cost Order*").

[34/] The evidence showed that approximately ten percent of the network consists of non-switched services. *See* Tr. at 4160 (Gansert); VZ-VA Ex. 107 at 97-98. While the Bureau suggested that once it excluded DS3s and DS1s from Verizon VA's calculations, lines requiring UDLC "would constitute only a fraction of" Verizon VA's proposed 10% figure, *Order* ¶ 318, the only record evidence on this point contradicts that conclusion: As Verizon VA witness Joseph Gansert testified at the hearings, Verizon VA's 10% estimate specifically accounted only for *narrowband* services and therefore did not include DS1s and DS3s. Tr. at 4160.

Virginia Inc. Recurring Cost Panel Direct Testimony at 97-98 ("VZ-VA Ex. 107"). *No party* challenged this. Since TELRIC requires the assumption of "a local network that could provide all the services [the] current network provides," *Triennial Review Order* ¶ 669, the *Order*'s adoption of 100% IDLC is untenable for this reason as well.[35/]

The Commission instead should adopt Verizon VA's proposed mix of 57.6% IDLC ports and 42.4% analog ports. VZ-VA Ex. 107 at 97. This forward-looking assumption was based on Verizon VA's experience regarding the mix that it has used in recent DLC deployments, *id.*, and far exceeds anything that will occur in Verizon VA's real overall network. Indeed, only 23% of Verizon VA's access lines use IDLC technology. VZ-VA Ex. 124 at 15; *see also id.* (expecting that in three years the network will consist of 26% IDLC). The Commission should also find that no GR-303 should be assumed for the forward-looking network. As Verizon VA has explained, there are *no* GR-303 interfaces deployed in Verizon VA's network today, and Verizon VA has no plans to deploy them in the future.[36/] At the very least, the Commission should adopt the assumption in Verizon VA's studies that 10% of all loops (and therefore switch ports) will be served using GR-303 IDLC technology since that assumes far more such technology than is likely to ever exist in Verizon VA's network.

35/ The *Order* defends its decision to omit all UDLC by insisting that planning guidelines in Verizon's former-GTE territory show that "UDLC systems are no longer necessary to provide non-switched special services." *Order* ¶ 317. But the 2000 former-GTE document to which the *Order* refers does not even discuss the provision of non-switched services. Further, it specifically refers to the use of the *UDLC* interface on Litespan 2000 DLC systems even where IDLC is deployed. WorldCom, Inc. Ex. 120 at 6 (Litespan-2000 Application Guidelines); *see also* VZ-VA Ex. 122 at 83.

36/ VZ-VA Ex. 107 at 91; Tr. at 4087, 4154, 4156-57 (Gansert) (noting that there is "no rational reason for [Verizon VA to] deploy a significant amount of GR303 in the future"); VZ-VA Proffer, Gansert Supplemental Testimony at 9-10.

4. The *Order* Fails to Consider the Implications of Its Flat-rate Structure for Reciprocal Compensation.

The *Order* concludes that carriers "that pay a flat, per line port price for unbundled end-office switching should not . . . pay the incumbent LEC any additional amount for use of end-office switching to terminate reciprocal compensation traffic." *Order* ¶ 488. In other words, CLECs who purchase UNE-P do not have to pay Verizon VA for terminating reciprocal compensation traffic to the CLEC customer served by that UNE-P line, supposedly because Verizon VA receives a flat charge for use of its unbundled switch. As discussed above, however, because the costs of end office switching are usage sensitive, this itself is incorrect.

But even apart from that error, the *Order*'s own logic does not apply in the converse situation: Where a CLEC hands off traffic to Verizon VA at an end office to terminate to *Verizon VA's* customer, that CLEC is required to pay reciprocal compensation to Verizon VA for its own use of the switch to terminate that call. And, of course, even the *Order* by its terms clearly does not apply when the CLEC does not purchase UNE-P at all but instead serves the originating customer with its own switch and then hands off the traffic to Verizon VA. The *Order*, however, does not establish *any* reciprocal compensation rate for traffic handed off for termination at a Verizon VA end office under these circumstances. While Verizon VA will file an appropriate rate in its compliance filing, the Commission should make clear that, to the extent CLECs attempt to interpret the *Order* as entitling them to terminate calls to Verizon VA customers without payment, that interpretation is incorrect.

Any other rule would be unlawful. The Act clearly requires CLECs to pay Verizon VA for the cost it incurs in terminating their traffic. *See* 47 U.S.C. § 251(b)(5). And Verizon VA clearly incurs such costs. As the Commission concluded in the *Local Competition Order*, "carriers incur costs in terminating traffic that are not *de minimis*," and "the 'additional cost' to

the LEC of terminating a call that originates on a competing carrier's network primarily consists of the traffic-sensitive component of local switching." *Local Competition Order* at 16024-25 ¶ 1057, 16055 ¶ 1112. The Commission has consistently recognized that such traffic sensitive costs of the switch are "additional cost[s] to be recovered through termination charges."[37/] And, as even the *Order* recognizes, some portion of end office switching is traffic sensitive.[38/] *Order* ¶ 473. Accordingly, Verizon VA incurs costs for terminating calls that it is entitled to recover under existing rules.

The *Order* could not lawfully require Verizon VA to stop charging reciprocal compensation to carriers who terminate traffic to Verizon's end offices because such a rule would create entirely new policy in an area that the Commission currently has under review. The Commission is in the midst of evaluating whether and when it makes sense to replace existing reciprocal compensation rules with bill and keep. *See* Notice of Proposed Rulemaking, *Developing a Unified Intercarrier Compensation Regime*, 16 FCC Rcd 9610, 9624-37 ¶¶ 37-76 (2001). But as the Commission has recognized, "shifting to a new paradigm for intercarrier compensation . . . may create new and unexpected problems." *Id.* 9630 ¶ 58. Indeed, the Commission has specifically noted that moving to a bill-and-keep regime would involve "various

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37/ Order, *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, FCC Docket No. 95-185, 2003 WL 22047787, ¶ 6 (Sept. 3, 2003) (quotations omitted).

38/ Such termination costs would not be recovered through the flat rate paid by the carrier who purchases UNE-P or by Verizon VA's retail customers. The CLEC whose UNE-P customer originates the call pays for the switch functionality at the *originating* end of the call through the flat-rated charge for end office switching, but that charge clearly does not cover the costs for the switch functionality at the terminating end of that call. And the retail rate for the Verizon VA customer receiving the call is not intended to recover the costs of terminating calls to that customer. The Commission made clear that terminating calls from another carrier imposes *additional* costs that clearly were not built into the retail customer's rates — a customer does not, for example, typically get charged a minute-of-use rate for calls he or she receives.

implementation issues or problems." *Id.* Those are precisely the complex issues the Commission is currently considering in its industry-wide rulemaking. It would be entirely inappropriate to simply adopt this new rule, *without* the benefit of industry participation, in this proceeding.[39/] Further, such a proposal was never even made on the record in this case, and thus even the parties to *this* proceeding were denied an opportunity to comment on it.

The Commission should, as noted above, reverse the *Order*'s adoption of a flat-rate structure altogether. This would ensure that all CLECs pay minute-of-use charges for whatever use they make of Verizon VA's end office switches. But in any event, Verizon VA clearly has a legal right under the Act to recover a reciprocal compensation termination charge from CLECs when Verizon VA terminates calls originating from the CLECs' customers. Because the *Order* fails to establish the applicable charge, the Commission should approve the charge Verizon VA includes in its compliance filing and make clear that any interpretation of the *Order* that denies Verizon VA the right to impose such charges on carriers when they terminate traffic at Verizon VA's end offices would be unlawful.

5. The *Order*'s Adjustment to Verizon VA's Computation of Total Annual Minutes Should Be Reversed.

The *Order* significantly inflates the total number of annual minutes over which switching investment is spread and therefore reduces tandem switching rates.[40/] It does so by increasing

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[39/] *See, e.g., Air Transport Ass'n of Am., Inc. v. FAA*, 291 F.3d 49, 56 (D.C. Cir. 2002) ("As the United States Supreme Court has noted, APA rulemaking is required if an interpretation 'adopt[s] a new position inconsistent with . . . existing regulations.'") (quoting *Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 100 (1995)); *Paralyzed Veterans of Am. v. D.C. Arena L.P.*, 117 F.3d 579, 586 (D.C. Cir. 1997) ("To allow an agency to make a fundamental change in its interpretation of a substantive regulation without notice and comment obviously would undermine th[e] APA['s] requirements.").

[40/] Although this error does not currently affect the calculation of end office switching rates given the *Order*'s use of a flat rate, if the *Order*'s decision to adopt such a flat rate is reversed —

the number of days used in Verizon VA's calculation of total annual minutes of use. In particular, because switches must be designed to handle peak traffic levels, in order to determine the annual minutes of use, Verizon VA must determine the effective number of days that experience usage levels equivalent to the average daily load during the busy season.

The *Order*'s decision to increase the number of days used in Verizon VA's calculations should be reversed for two reasons. First, *no* party contested Verizon VA's figure for the number of days, and no alternative was proposed on the record. The "baseball arbitration" rules used in this proceeding thus required adoption of Verizon VA's proposal and did not permit the Bureau to reach out and devise its own substitute input. Second, the assumption the *Order* adopts is simply based on a flawed methodology.

In order to calculate the total number of annual minutes over which to spread the investment that Verizon's cost models produce, Verizon VA first identified demand during the busy hour in the busy season. The busy hour is defined as the hour during the business week in which the switch experiences the highest demand; the busy season is defined as the three months of the year that experience the highest demand. To spread the cost per busy hour minute-of-use across all minutes, Verizon applied two factors. In the course of these calculations, Verizon VA used an input representing the number of effective calendar days that experience a busy hour. Many days, such as weekends and holidays, as well as business days outside of the busy season, experience much lower total day usage than during that peak busy season. Verizon VA's switching studies assumed that the average daily load in the busy season was experienced for 251 effective calendar days. *See generally* VZ-VA Ex. 107 at 200-01.

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as it must be — then the *Order*'s erroneous method of determining total minutes of annual use also would improperly reduce end office switching rates.

No party even attempted to demonstrate that Verizon VA's proposed input was wrong. Neither AT&T nor WorldCom proposed an alternative to the 251 day assumption. Indeed, in rerunning Verizon VA's studies, the CLECs relied on Verizon's total minutes of use calculations, which reflect this assumption. *See* AT&T/WorldCom Ex. 12 (Restated Workpapers). Thus, Verizon VA's proposal was the *only* one on the record. The *Order* nonetheless adopts an input of *339* effective days. *See Order* ¶ 457. This figure is adopted with no warning and little discussion. The analysis and justification are limited to the Bureau's independent and incorrect calculations. The parties never had an opportunity to comment on the Bureau's approach, because it was never even proposed or discussed during the case. The *Order* accordingly violates the "baseball arbitration" rules under which the Bureau was required to choose one of the party's proposals, particularly here, where no one even challenged Verizon VA's proposal.

A 339-effective-calendar-day assumption also makes little sense. This would mean that only 26 days of the year do not experience the average busy season busy day load, and that almost 75% of the weekend days in a year experienced the busy day peak traffic that characterizes the busiest time of the year.[41/] That is absurd on its face, and the *Order* has no reasoned basis for finding otherwise. Given that Verizon VA's calendar day figure was the only

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41/ Moreover, the *Order*'s methodology has two obvious significant flaws. First, it used the wrong version of Verizon VA's switching studies to determine the number of tandem trunks in Verizon VA's network. Although the *Order* recognizes that Verizon VA filed a revised switching study "correct[ing] errors in the tandem switching part of its study," *Order* ¶ 8, the *Order* erroneously used the understated number of tandem trunks from Verizon VA's initial study. Second, the 2001 ARMIS DEMs data on which the *Order* relies include minutes that are unrelated to billable switched minutes (*e.g.*, minutes relating to operator service calls), and which should have been excluded from the Bureau's calculation. If these two adjustments alone were made to the *Order*'s calculation, the total minutes per trunk generated by that calculation would have been far lower, which would have increased the minute-of-use charge.

proposal on the record and that no party challenged it during the proceeding, the Commission should adopt Verizon VA's proposal.

6. The *Order* Should Have Made EF&I and RTU Adjustments as a Result of the Substantial Reductions to Switching Investment.

a. EF&I Factor. After substantially reducing Verizon VA's switching investment, the *Order* should have increased Verizon VA's switching EF&I (engineering, installation and furnishing) factor to ensure that Verizon VA recovered the proper amount of EF&I costs. As the *Order* recognizes, "as material costs decline, the EF&I factor should increase." *Order* ¶ 525. But the *Order* makes no such adjustment.

The EF&I factor is a ratio that compares the total cost of installed investment (investment plus EF&I costs) of digital switching equipment to the materials only investment for the same equipment. VZ-VA Ex. 122 at 201. The *Order* adopted Verizon VA's EF&I factor, finding it preferable to and more reliable than AT&T/WorldCom's proposal. *Order* ¶ 444. But by applying that factor without adjustment to a reduced investment amount, rates based on the *Order* will understate EF&I costs.

Even the *Order* admits that the reductions to switching investment render Verizon VA's initially proposed EF&I factor "conservative." *Id.* This is because, as the *Order* notes, the "Material Only" component of Verizon's EF&I factor is based on Verizon's 1998 switching material costs and "reflects a relatively large percent[age] of growth and upgrade jobs for which Verizon receives a relatively small discount." *Id.* ¶ 444. However, the EF&I factor "will be applied in the cost study to investments that reflect mostly the relatively large discount Verizon receives for new switches . . . ." *Id.*

Applying an EF&I factor calculated based on one investment base to a different (and lower) investment base produces skewed results. For example, if the cost to engineer a switch is

$100, and the switch costs $400, the EF&I factor would be 1.25 (500/400). If a new discount were applied to the switch price, so that the cost was assumed to drop to $200, applying the 1.25 EF&I factor would yield $250, only $50 of which would account for engineering costs. But the time and cost involved in engineering the switch will not have changed simply because the switch price was arbitrarily reduced to a lower level than Verizon VA actually will pay going forward. VZ-VA Ex. 107 at 42. Thus, as Verizon VA explained, "an adjustment [is] necessary to ensure that the original factor, when applied to [reduced] material-only investments, will still yield the correct ratio of engineering and installation costs." *Id.* at 42-43. Indeed, as noted above, the *Order* itself agrees that, "as material costs decline, the EF&I factor should increase." *Order* ¶ 525. The Commission accordingly should increase Verizon VA's EF&I factor in proportion to the final reduction in switching investment costs so that it yields the proper level of engineering and installation costs.

b. RTU Fees. Having determined that 90% of Verizon VA's switching investment should be assumed to be purchased at the "new" switch discount level, the *Order* should have modified the level of right to use ("RTU") fees in the study to reflect the greater RTU costs that would be incurred as a result. Verizon VA's proposed RTU factor, and the one ultimately adopted by the *Order,* is based primarily on ongoing expenditures for RTU fees. It does not account for the expensive initial software load that is required in connection with a new switch. Verizon VA provided evidence that the up-front payment for new switch RTU fees is approximately $2 million per switch; the record showed that AT&T's agreement with Lucent supported that assessment.[42/] While the *Order* "decline[d] to rely on this contract," *Order* ¶ 450,

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[42/] VZ-VA Switching Br. at 23; VZ-VA Ex. 122 at 198-99; AT&T Response to VZ-VA 1-1 and attached Contract No. LLJ288D, Exhibit 1 — Attachment A, page 1, item 4.

that decision is insupportable. *No* party challenged this evidence or provided a different up-front RTU figure. Accordingly, if the Commission assumes a greater number of new switch purchases than in Verizon VA's studies (which, as discussed above, it should not), the Commission should correspondingly increase Verizon VA's RTU factor to account for the additional $2 million in RTU fees Verizon VA will incur per switch.

7. Verizon's Analog Line Port Utilization Factor Should Not Be Adopted for Digital Line Ports.

The *Order* adopts Verizon VA's *analog* line port fill factor for both analog *and* digital line ports. This decision was in error because, as all parties agreed, digital line port utilization necessarily is much lower than analog line port utilization, and *all* parties accordingly proposed digital line port fill factors that are *lower* than the figure adopted in the *Order*.

Digital line ports differ from analog line ports in that analog line ports require capacity only on the switch, while digital line ports require capacity both on the switch and at the DLC remote terminal. As a result, the capacity of analog line ports can be more easily increased and utilization can be maintained at a higher level. VZ-VA Ex. 107 at 195. Even AT&T/WorldCom recognized this difference between analog and digital line port utilization and, in fact, AT&T/WorldCom recommended a digital line port fill factor *lower* than what the *Order* adopts.[43/] While the *Order* suggests that it was not convinced that *either* party's digital line port factor was correct, *Order* ¶ 434, the fact that *both* parties agreed that digital line port utilization is lower than analog line port utilization contradicts the *Order*'s adoption of the analog line port fill factor for both. That determination should be reversed, and the Commission should adopt Verizon VA's digital line port utilization factor.

43/ *See* Direct Testimony of Joseph P. Riolo on Behalf of AT&T and WorldCom, Inc. at 37 (July 31, 2001) ("AT&T/WCom Ex. 6").

8. The Growth Rates Adopted For Tandem Trunk Ports and Trunk Usage Should Be the Same.

The *Order* recognizes that "[t]here is a need for consistency between . . . the number of line ports, trunk ports, and minutes of use over which to spread the investment. If there is an inconsistency, cost per unit may be overstated or understated." *Order* ¶ 417. Nonetheless, the *Order* inexplicably adopts a growth rate of 3% for tandem trunk ports, *see id.* ¶ 412, while adopting a 5% growth rate for tandem trunk minutes of use. *See id.* ¶ 419. That decision is contrary to the *Order*'s general statement of principle and with its adoption of a consistent annual growth rate (of 2.5%) for both end office lines *and* per-line busy hour usage. *See id.* ¶¶ 404, 411.

The *Order*'s adoption of different growth rates for tandem trunk ports and tandem trunk usage also makes no sense. That determination means that Verizon VA's tandem trunks would grow 17% over the 12-year life of a switch, while tandem trunk minutes of use would grow by *34%*.[44/] It is implausible that Verizon VA's tandem trunk facilities would be able to handle proportionately more and more traffic every year, while maintaining needed spare capacity. Moreover, if the *Order's* disparate tandem trunk and usage growth rates are implemented, Verizon will recover a smaller amount of tandem trunk port investment each successive year relative to every minute of use. This will result in certain under-recovery of costs, and must be reversed. The Commission accordingly should adopt the same growth assumption for tandem trunks and tandem trunk minutes of use.

[44/] These overall growth rates are derived from the inputs contained in Appendices C and D of the *Order*, compounded over the 12-year life of the switch.

B. Loop Costs

The *Order*'s determinations concerning loop costs are also flawed. While the *Order* produces a statewide average rate for 2-wire basic loops that is marginally higher than the previous Virginia statewide average rate, the new loop rate is still below the New York benchmark. The *Order* arrives at this below-cost loop rate through its decision to rely on a fundamentally flawed model and the adoption of incorrect inputs. Moreover, the *Order* slashes the current, TELRIC-compliant high capacity loop rates by one-half on the basis of calculations having nothing to do with cost.

1. The *Order*'s Determination of Loop Costs Is Flawed Generally.

The *Order*'s use of a modified version of the Commission's universal service Synthesis Model is unlawful. The Commission has made clear that this model should not be used as a basis to set rates. While the *Order* asserts that "the Commission never found that the underlying model platform [of the universal service model] is inappropriate for use in determining UNE costs," *Order* ¶ 171, the Commission has in fact said so repeatedly. It explicitly has found that "the USF cost model should not be relied upon to set rates for UNEs."[45/] The Commission further observed that it "has never used the [universal service] cost model to determine rates for a particular element, nor was it designed to perform such a task."[46/] As the Commission has noted:

45/ Memorandum Opinion and Order, *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma*, 16 FCC Rcd 6237, 6277 ¶ 84 (2001) ("*Kansas/Oklahoma 271 Order*").

46/ *Maine 271 Order* at 11679 ¶ 32; Memorandum Opinion and Order, *Application by Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), and Verizon Global Networks Inc., for Authorization to Provide In-Region, InterLATA Services in Massachusetts*, 16 FCC Rcd 8988, 9002-03 ¶ 28 n.107 (2001) ("*Massachusetts 271 Order*") ("[T]he Commission has generally cautioned . . . that the Synthesis Model was developed for the purpose of

> [There is a] critical difference between using the Synthesis Model (or any other model) to determine absolute UNE costs, and using it for the limited purpose of comparing relative cost differences between the states. In section 271 proceedings, the Commission uses the Synthesis Model only for the latter purpose; we have not used the model to compare UNE rates set by a state commission to costs produced by the model. Indeed, the Commission has repeatedly cautioned against using the Synthesis Model to set rates.[47]

The Commission just recently reiterated this point in the *TELRIC NPRM*, explaining that it did not intend for the universal service model "to provide *any* systematic guidance to states in the area of TELRIC rate-setting." *TELRIC NPRM* ¶ 46 (emphasis added).

The inadequacy of AT&T/WorldCom's version of the Synthesis Model is apparent in numerous respects. For example, while the *Order* acknowledges that digital loop carrier systems are a "*key* loop investment component," in the modified universal service Synthesis Model, *Order* ¶ 303 (emphasis added), changing the level of IDLC has *no impact* whatsoever on loop costs. That obviously makes no sense. The CLEC model also, as discussed below, is simply

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determining high cost support and may not be appropriate for other purposes."); *WorldCom v. FCC*, 308 F.3d 1, 9 (D.C. Cir. 2002) (upholding FCC's rejection of WorldCom's claim that rates are too high because they differ from the "data collected by the Commission for the purposes of implementing its duties as to the Universal Services Fund — information that the FCC insists is unreliable for the determination of UNE rates"); Ninth Report and Order and Eighteenth Order on Reconsideration, *Federal-State Joint Board on Universal Service*, 14 FCC Rcd 20432, 20455 ¶ 41 (1999) ("[T]he federal cost model was developed for the purpose of determining federal universal service support, and . . . it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements."); Tenth Report and Order, *Federal-State Joint Board on Universal Service*, 14 FCC Rcd 20156, 20172 ¶ 32 (1999) ("*Inputs Order*") (same).

47/ Memorandum Opinion and Order, *Application by Verizon Maryland Inc., Verizon Washington, D.C. Inc., Verizon West Virginia Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services, Inc., for Authorization to Provide In-Region, InterLATA Services in Maryland, Washington, D.C., and West Virginia*, 18 FCC Rcd 5212, 5265-66 ¶ 89 (2003) ("*Maryland/Washington, D.C./West Virginia 271 Order*").

incapable of modeling the costs of high capacity loops, a flaw that drives AT&T/WorldCom and the *Order* to set high capacity loop rates based on "ratios" that are entirely unrelated to costs. And, as Verizon VA demonstrated, these are but a few of the CLEC model's numerous flaws, which together render it wholly incapable of producing accurate UNE loop costs.[48/] Indeed, even Commission Staff has now concluded that, when investment costs are falling over time, the costs generated by the universal service Synthesis Model are substantially understated. *See* OSP Working Paper at 1-2, 43.

The *Order* compounds the inadequacy of its model choice by relying on inputs that result in rates that are below any rational measure of costs. To take just one example, the *Order* adopts entirely hypothetical fill factors that are based on little more than the opinions of AT&T/WorldCom's subject matter experts, while ignoring Verizon VA's proposed fill factors based on efficient engineering guidelines and the actual utilization levels it has experienced in operating a real-world network subject to Virginia-specific service guidelines. The *Order*'s approach leads it to adopt fill factors as high as *100%* for fiber feeder, taking the absurd position that absolutely no spare is necessary to account for churn, growth, repair and maintenance, or administrative uses.

The Commission should reject the *Order*'s attempt to keep basic loop rates at below-cost levels and, in the case of high capacity loops, to slash the rates by approximately one-half.

[48/] *See generally* Verizon Virginia Rebuttal Testimony of Francis J. Murphy (Aug. 27, 2001) ("VZ-VA Ex. 109"); Verizon Virginia Rebuttal Testimony of Dr. Timothy Tardiff (Aug. 27, 2001) ("VZ-VA Ex. 108"); Verizon Virginia Supplemental Rebuttal Testimony of Francis J. Murphy (Nov. 16, 2001); Verizon Virginia Supplemental Rebuttal Testimony of Timothy J. Tardiff (Nov. 16, 2001) (all cataloging flaws of the CLEC model).

2. The *Order* Arbitrarily Sets DS3 and DS1 Loop Rates Using Calculations That Are Not Based on Cost.

The *Order*'s methodology for setting DS3 and DS1 loop rates is wrong for two reasons. First, it is not based on the costs of providing high capacity loops at all and does not even purport to be. Second, it starts with a modified version of the universal service Synthesis Model, which *all* parties recognize is particularly incapable of measuring high capacity loop rates. The *Order* reduces Verizon VA's DS3 and DS1 loop rates by 33% to 54% from the rates that the Commission found to comply with TELRIC *less than one year ago*. These new rates are among the lowest in any of Verizon's jurisdictions. Because high capacity loops are a component of EELS, these rates, in combination with the new EEL conversion rules adopted by the Commission in the *Triennial Review Order*, will further encourage CLECs to convert special access services to EELs. As the Commission has explained, such dislocation will have "severe consequences" for the special access market. Supplemental Order Clarification, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd 9587, 9598 ¶ 18 (2000). In particular, the Commission concluded that, while special access is a "mature source of competition," conversion of special access service to below-cost EEL prices will "undercut the market position of many facilities-based competitive access providers." *Id.*

The *Order* does not even try to measure the actual costs of providing DS1 and DS3 loops in calculating the rates. Instead, it adopts rates out of thin air by applying ratios proposed by AT&T/WorldCom to the 2-wire loop rates produced by their modified version of the universal service model. These "ratios" do not account for any actual cost relationships between 2-wire and high capacity loop rates. Indeed, the *Order* does not even purport to understand the basis for the ratios, finding them "lack[ing] [in] thoroughness and clarity," *Order* ¶ 341, and

acknowledging that it was "unable . . . to identify the starting point for the AT&T/WorldCom calculations." *Id.* ¶ 341 & n.888.

In fact, there is no fixed cost relationship among 2-wire and high capacity loops. Two-wire loops are provided to residential and business customers at virtually every point in the network over facilities with large amounts of copper cable, particularly in the distribution portion of the loop. DS1 loops, in contrast, frequently are provided to business customers in urban areas, where the loops tend to be located in buildings served directly by fiber-fed DLC systems, *see* Tr. at 4398-99 (Murphy); in such areas, the DS1 loops accordingly have a much higher proportion of electronics and fiber than 2-wire loops (about 24:1), and the loop costs would vary accordingly. *See* VZ-VA Ex. 107 at 89. But the costs of DS1 loops do not *always* reflect that high proportion of DLC costs: in suburban and rural areas, for example, there is less demand for DS1 services, and DS1 loops thus tend to be provided using at least some copper distribution facilities. In such cases, DS1 loops use twice the copper capacity of a 2-wire basic loop, *see generally Inputs Order* at 20202-03 ¶ 100, and thus in rural areas, the ratio of costs between DS1s and DS0s will be significantly lower than the ratio in urban areas. Because of these differences, the ratio between DS0 and DS1 rates clearly should be different in different density cells. Yet the *Order* adopts only one ratio for *all* density zones.

The relationship between DS0 and *DS3* loops is even less consistent. DS3 loops are provided using the same type of fiber systems used in the IOF transport network and cannot be provided using the types of copper facilities or DLC systems used to provide basic 2-wire loops and many DS1 services. *See* VZ-VA Ex. 109 at 44; *see also* Tr. at 4519 (Gansert). Indeed, the specialized fiber electronics used to provide DS3 services account for more than 80% of the

costs of providing DS3 services.[49] In comparison, in the CLECs' model, the electronics used to provide basic 2-wire loops account for less than one-third of the costs of the basic 2-wire loop.[50] Further, DS3 loops are provided almost exclusively to large businesses with large volumes of voice or data traffic, whose locations typically are not distributed throughout Verizon VA's service area in the same way as customers of basic 2-wire loops (or even DS1 loops). *See generally* VZ-VA Ex. 107 at 164; *id.* at 166. The costs of a DS3 loop provided in Virginia thus would not vary in a manner that bears any relevance to average 2-wire loop costs. Accordingly, there is no reason to believe that there is *any* predictable relationship among the costs of providing basic 2-wire and DS3 loops.

Not surprisingly, then, a review of the basic 2-wire, DS1, and DS3 loop rates in Verizon's largest states where it has received section 271 authorizations does not reflect any set cost relationship among these three types of loops. First, the ratios of DS3 to DS1 loop rates range from 5.9 in Pennsylvania to 10.8 in Maryland. *See* Attachment A (chart of publicly filed UNE rates and corresponding ratios). Second, the ratio of DS1 loop rates to basic 2-wire loop rates varies among density zones and states, sometimes dramatically. For example, in Maryland, that ratio ranges from a low of 4.1 in rate group B1 to a high of 8.1 in rate group A2; in New York, the ratio ranges from 8.3 in density zone 2 to 10.8 in density zone 1a. *See id.* The *Order*, in contrast, assumes a single ratio for all density zones, which makes no sense.

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[49] VZ-VA Ex. 205, CD #2, "VA Excel & Word Studies" folder, "VA_DS3_Loop" sub-folder.

[50] Appendix F of the Bureau's *Order* shows that, of the $14.43 statewide average loop rate, $4.70 (less than 33%) is due to concentration equipment, which includes DLC electronics and passive Serving Area Interfaces.

The *Order*'s approach to setting high capacity loop rates is particularly inappropriate because it begins with rates produced by the modified version of the universal service Synthesis Model. As discussed above, the Commission has made clear that this model should *not* be used to set UNE rates in the first place. That is particularly true for high capacity loops. Indeed, *all* parties agree, and the *Order* itself acknowledges, that this model simply cannot produce high capacity loop rates. *See, e.g.*, Tr. at 4485 (AT&T/WorldCom witness Pitkin) ("There is no question that [DS1 and DS3] services are not explicitly modeled in the network."); *Order* ¶ 332.

In all other cases where the CLEC model cannot produce rates, the *Order* concedes that the appropriate response was to rely on Verizon's studies. *See Order* ¶ 554 (NID, subloops, entrance facilities, and others). There was no valid reason not to do the same here.[51/] Verizon VA submitted models that produced cost-based rates for high capacity loops. In fact, the DS3 rates proposed by Verizon VA are based on a model the *Order* specifically finds to comply with TELRIC and that the *Order* actually adopts for purposes of setting transport rates.[52/] *See Order* ¶ 503. And the loop cost model Verizon VA used to set DS1 rates has been used by Verizon to set loop rates that the Commission found TELRIC-compliant in the 271 proceedings for New Jersey, Delaware, Virginia, and Pennsylvania.

51/ While the *Order* suggests that it could not rely on Verizon's loop or transport models because both of these were "fundamentally different" from the modified universal service Synthesis Model, *Order* ¶ 343, that rationale is unavailing, given that, for example, the *Order* adopts Verizon VA's loop model for subloop costs even while relying on the modified Synthesis Model for 2-wire loop costs. *Id.* ¶ 554.

52/ DS3 loops are provided using the same type of high capacity fiber optic systems used in the transport network and cannot be provided over the copper facilities or digital loop carrier systems used to provide basic 2-wire loops. *See* VZ-VA Ex. 109 at 44; *see also* Tr. at 4519 (Gansert).

3. The *Order* Wrongly Adopts AT&T/WorldCom's Distribution "Fill Factor."

The *Order* adopts a distribution fill factor that is too high and therefore substantially understates Verizon VA's forward-looking costs by modeling a network with insufficient levels of spare capacity. That fill factor is based on no evidence whatsoever and is contradicted by the only empirical data on the record. Moreover, the sole reason the *Order* cites for using it — that the same distribution fill was used in the universal service Synthesis Model — is both materially wrong as a factual matter and contrary to clear Commission precedent providing that the universal service inputs are not appropriate for UNE costing purposes.

The *Order*'s choice of fill factor was contrary to the only record evidence concerning proper, efficient distribution fill. AT&T/WorldCom offered no evidence in support of their proposed distribution fill factors other than the unsubstantiated opinion of their engineering witness.[53/] For example, AT&T/WorldCom produced no evidence that their fill inputs produce cable sizes that correspond to cable sizing guidelines in use by *any* local exchange carrier, much less an incumbent local exchange carrier that must meet the service quality standards that are imposed on Verizon VA.[54/] Nor did AT&T/WorldCom present any evidence validating the results of their proposed target fill factors in the modified universal service model. AT&T's engineering witness even acknowledged that he was unaware of *any* local exchange network that operates at the levels of AT&T/WorldCom's proposed fills. Tr. at 4513-15.

53/ Surrebuttal Testimony of Joseph P. Riolo on Behalf of AT&T and WorldCom, Inc. at 22-23 (Sept. 21, 2001) ("AT&T/WCom Ex. 18").

54/ The former GTE engineering guidelines cited by the Bureau, *see Order* ¶ 254, apply to a service area that is significantly more rural than Verizon VA's service area and would produce much higher operating expenses in Verizon VA's service area. *See* VZ-VA Reply Br. at 80 n.69.

Furthermore, the *Order*'s reliance on the distribution fill factor adopted by the Commission for universal service purposes in its *Inputs Order* was inappropriate. When the Commission adopted the inputs for the Synthesis Model, it specifically warned that it "ha[d] not considered what type of input values, company-specific or nationwide, nor what specific input values, would be appropriate for any other purposes" and further noted that "it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements."[55/] Even the *Order* acknowledges this much. *See Order* ¶ 51. The Commission reiterated this point in the *TELRIC NPRM*, explaining that "decisions on particular inputs were made *solely* for the purpose of calculating universal service support and may not be appropriate for the calculation of UNE prices." *TELRIC NPRM* ¶ 46 (emphasis added). Thus, the fact that the Synthesis Model uses a similar distribution fill provides no justification for the *Order*'s determination.

The *only* real-world evidence presented to the Bureau concerning distribution utilization shows the unreasonableness of AT&T/WorldCom's proposed fill factors. Verizon VA showed that its current outside plant engineering practices and guidelines call for the placement of two to five distribution pairs per residential living unit. VZ-VA Ex. 122, Att. K at 35. Verizon VA explained that these engineering guidelines are "[b]ased on decades of operating experience" about the most efficient way to accommodate the need to provide second lines to customers without knowing in advance where those lines will have to be provided. *Id.* at 119. Verizon VA also presented evidence showing that the actual utilization of distribution cables in Verizon VA's

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55/ *Inputs Order* at 20172 ¶ 32; Ninth Report and Order and Eighteenth Order on Reconsideration, *Federal-State Joint Board on Universal Service*, 14 FCC Rcd 20432, 20455-56 ¶ 41 (1999) ("[T]he federal cost model was developed for the purpose of determining federal universal service support, and that it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements.").

network, which resulted from the application of the engineering guidelines, produced a distribution utilization level that was substantially lower than the level modeled by the modified universal service Synthesis Model. *See* VZ-VA Ex. 107 at 111-12; VZ-VA Ex. 122 at 124.

The *Order* should have relied on this evidence in place of the unsubstantiated opinions proffered by AT&T/WorldCom. That would have been consistent with the Bureau's decision to look to Verizon VA's network to determine the actual number of nodes per ring in a forward-looking transport network: in that context, the *Order* determines the actual network data to be "the only objective data before us on this issue" and thus preferable to expert opinions. *Order* ¶ 515.

The *Order*'s only reason for not using "objective data" here is its suggestion that Verizon's engineering practices are based on ultimate demand that is too speculative to forecast. *Id.* ¶ 254. But the record clearly showed that Verizon VA's distribution cable sizing practices are driven by the need to serve *today's* demand as efficiently as possible. Demand for second lines is constantly shifting and inherently unpredictable, and Verizon VA needs to be able to serve that changing demand without having repeatedly to dig up the streets to place new cable. *See, e.g.*, VZ-VA Ex. 122 at 119-22. The best evidence that Verizon VA's distribution fill factors are not based on some speculative forecast is that they have remained stable over time. In other words, while demand may grow in particular locations and decrease in others, the average fill over the network has not varied. *See, e.g.*, Tr. at 2991-92, 4212-13 (Tardiff). If, as the *Order* asserts, Verizon VA's cable sizing practices were based on "speculative" overall growth forecasts, then the actual distribution utilization rates would vary depending on whether that speculation had turned out to be true or not. Thus, the distribution fill in Verizon VA's network

is a function of having to satisfy *current* needs — including shifts in demand and other changes — efficiently.

The *Order* accordingly should have used a target distribution fill factor for the modified universal service model that produced an achieved distribution utilization rate that approximated the actual distribution utilization rate in Verizon VA's network. The *Order* suggests that its baseball arbitration rules preclude this result, because Verizon VA did not specifically propose this adjustment for the modified universal service model. *See Order* ¶ 256. Even aside from the fact that the *Order* departs widely from these rules when doing so would depress rates, the *Order*'s rationale is simply wrong. In fact, Verizon VA submitted restated versions of that model that included an alternative distribution fill factor. *See* Verizon VA Modified Synthesis Model Runs (Dec. 12, 2001) ("VZ-VA Ex. 204"). And Verizon's restated version was just a basic mathematical adjustment — a change that would have been far less involved than, for example, AT&T/WorldCom's whole new calculation of missing NRCs, discussed below.

C. The *Order* Errs in Requiring Verizon VA To Establish Rates Which Exclude DCS and Multiplexing from Certain Dedicated Transport Services.

The *Order*'s decision to require Verizon VA to provide rates for dedicated transport services that include neither digital cross-connects ("DCS") nor multiplexing services, *see Order* ¶ 510, is flatly inconsistent with the fact that transport necessarily includes those functions, and those rates should be eliminated. Indeed, CLECs will no doubt (erroneously) claim that this decision permits them to order a bare-bones "transport" option and to receive multiplexing functionality for free. Such a result would create a new subsidy for CLECs who use EELs, which, when combined with the Commission's new rules concerning the availability of EELs, would encourage greater conversion of special access services to EELs and do even further harm to facilities-based competition in the special access market.

The *Order* requires Verizon VA to "establish rates for dedicated transport (at each capacity level (*e.g.*, DS-1, DS-3, STS-1, Ocn)) in the following manner: (1) including DCS and multiplexing; (2) including DCS only; (3) including multiplexing only; and (4) *including neither DCS nor multiplexing*." *Id.* ¶ 511 (emphasis added). But Verizon VA cannot provide transport without DCS or multiplexing at the CLEC's option. As a result, CLECs may interpret the decision as allowing them to pay for the least expensive, barebones service option even while taking advantage of the full array of multiplexing services that are included in the more expensive option and that *must be provided* when Verizon VA offers transport. Such a decision would create a subsidy for CLECs using IOF transport, be inconsistent with the realities of the network, and could not be squared with the *Order*'s determination in the *Non-Cost Order* that multiplexing is an essential functionality of dedicated transport. *Non-Cost Order* at 27281-82 ¶ 496.

As the record shows, "[i]nteroffice transport elements (DS1, DS3, etc.) must pass through one or more levels of multiplexing to be carried by the backbone transport network." VZ-VA Ex. 107 at 216. Although the *Order* suggests that the decision in the non-cost portion of the case supports its finding that transport can be offered without multiplexing, just the opposite is true. The *Non-Cost Order* recognizes that *multiplexing* is not a UNE separate and apart from transport and ruled that Verizon VA "must provide multiplexing 'together' with dedicated transport." *Non-Cost Order* at 27283 ¶ 499. This does not support the converse theory that *dedicated transport* can be provided without multiplexing: to the contrary, the *Non-Cost Order* concludes that "in order to provide the channelizing functionality of dedicated transport, Verizon *must provide multiplexing*." *Id.* (emphasis added). And it determines that multiplexing is an "inherent part of dedicated transport." *Id.* at 27281-82 ¶ 496 & n.1658.

The required multiplexing can be performed either using a standalone multiplexer or by DCS systems, which have multiplexing capabilities. A rate for "transport" that included neither a standalone multiplexer nor DCS would, at least in the case of DS1 service, cover nothing but the bare cost of the fiber. But a fiber loop is not transport: transport involves multiplexing fiber between the CLEC point of interconnection and the IOF SONET rings so that high capacity traffic can be sent across the transport network. The concept of transport without any multiplexing functionalities thus is meaningless.

The result of the *Order* is that CLECs will undoubtedly claim that they can order the cheaper, bare bones "transport" UNE and insist that it must be capable of offering transport functionalities. Yet to provision transport at all, Verizon VA would have to use multiplexing, *whether or not the CLEC has specifically "ordered" it.* As a result, CLECs would obtain full-fledged transport for the cost of nothing more than the SONET rings contained in the transport network. This would be a pure subsidy for the CLECs. The only appropriate solution is to permit Verizon VA to charge for whatever multiplexing it actually provides when a CLEC orders dedicated transport.

Moreover, any suggestion that a CLEC may select whether it wants transport with DCS or transport with standalone mutliplexing also must be rejected. It is not up to a CLEC to make that choice, because whether DCS or standalone multiplexing can be used in a particular location is a set function of network design. DCS systems have automated capabilities that eliminate the need for the manual cross-connection between higher-capacity signals, such as DS3s, and lower-capacity signals, such as DS1s, that is required when a standalone multiplexer is used. Efficient network design calls for DCS in central offices where there is high demand. In central offices where Verizon VA has employed DCS, there is no way for Verizon VA to provide DS1 transport

without using the DCS, because Verizon does not install redundant multiplexers and manual cross-connection systems in addition to the wideband DCS systems. Likewise, if Verizon VA has not installed a wideband DCS system at a particular central office, it cannot provide DS1 transport through a DCS system at that central office. *See* VA UNE 10_02_01 Revised w Mux.xls.

Accordingly, to eliminate any ambiguity, the Commission should eliminate the option for CLECs to order "transport" with neither DCS nor multiplexing. Furthermore, the Commission should make clear that a CLEC must pay for whatever form of multiplexing or DCS is provided in the location the CLEC is taking service.

II. GLOBAL INPUTS

A. The *Order*'s Methodology for Calculating the Cost of Capital Is Flawed.

While the *Order* adopts the 12.95% cost of capital Verizon VA proposed in its initial studies, *Order* ¶ 104, its decision still injures Verizon VA and understates costs. As an initial matter, even the *Order* finds that the cost of capital should be 13.068%, but adopts Verizon VA's lower number based on its "baseball arbitration" rules. *Id.* This decision is itself arbitrary since the *Order* departs repeatedly from those "rules" in order to adopt inputs or assumptions that reduce costs.

Second, the *Order*'s choice of the "Capital Asset Pricing Model (CAPM)" cost of capital model is unsupported. During the proceeding and hearings, the parties focused on competing versions of the so-called DCF model for estimating the cost of capital. Although AT&T/WorldCom initially introduced the CAPM model, it was clearly their secondary choice and so the record is underdeveloped on this model. However, it is clear that the CAPM model is uniquely sensitive to changes in interest rates. *See id.* ¶ 64 n.203. As a result, use of this model will create substantial fluctuations in the resulting cost of capital, and the particular cost of

capital set at any time will be an accident of timing. The result may be a higher or lower cost of capital, but it is clearly not an appropriate outcome for purposes of setting a long-term cost of capital to calculate prices that will be in effect at least for several years.

Third, the *Order* errs because it refuses to consider the supplemental evidence Verizon VA sought to introduce with respect to the appropriate means of accounting for the pertinent regulatory risks, including in particular the unique risks of providing services over UNEs. Only recently, the Commission expressly acknowledged in its *Triennial Review Order* that the UNE cost of capital must take into account "any unique risks (above and beyond . . . competitive risks . . .) associated with new services that might be provided over certain types of facilities." *Triennial Review Order* ¶¶ 680-81, 683. The obvious corollary is that the cost of capital must take into account the risks inherent in the provision of UNEs themselves. As the Commission explained to the Supreme Court, the cost of capital must reflect all the added "risks associated with the regulatory regime to which a firm [providing UNEs] is subject."[56/]

Verizon VA witnesses Dr. Howard Shelanski and Dr. James Vander Weide explained in their testimony during this case that the cost of capital should take into account the regulatory risks of the UNE regime and of TELRIC pricing in particular, and noted that Verizon VA's initial proposal would have to be revised upward to take these risks into account.[57/] Similarly, Professor Hausman explained that the UNE regime presents particular regulatory risks that

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[56/] Reply Brief for Petitioners United States and the FCC, *Verizon Communications, Inc. v. FCC*, Nos. 00-511 *et al.*, at 12 n.8 (July 2001) ("FCC Reply Br.").

[57/] Verizon Virginia Inc. Direct Testimony of Dr. Howard Shelanski at 13-14 (July 31, 2001) ("VZ-VA Ex. 101"); Verizon Virginia Inc. Direct Testimony of Dr. James Vander Weide at 5, 41 (July 31, 2001) ("VZ-VA Ex. 104"); Verizon Virginia Inc. Rebuttal Testimony of Dr. James Vander Weide at 30-31 (Aug. 27, 2001) ("VZ-VA Ex. 112"); Verizon Virginia Inc. Surrebuttal Testimony of Dr. James Vander Weide at 11, 21 (Sept. 21, 2001) ("VZ-VA Ex. 118").